Practical Observations

ON

"SUPPORTING THE PERINÆUM."

BY

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HAVING shown how contradictory are the statements of authorities as to the effects, objects, and advantages of the procedure "supporting the perinæum", I proceed in the next place to examine the procedure itself, with the view of ascertaining the effects actually or necessarily produced by it. Such an examination will place us in a position for judging whether the "objects" of the procedure are legitimate ones, and whether the advantages supposed to accrue from it are real, or only imaginary.

It is not necessary to occupy space by a minute description of the operation "supporting the perinæum"; it is familiar enough to all. The directions given by obstetric authorities as to the "method" to be pursued amount, in substance, to this—that, when the head of the child has begun to distend the perineal structures, pressure should be applied to the perinæum by means of the hand, a napkin being generally directed to be interposed. By some, the pressure or support is directed to be applied early, and kept up during the access of the pains, until the head and shoulders be expelled; by others, the time at which the support is to be commenced is fixed somewhat later, and nearer to the time at which the birth of the head may be expected to occur. All the recent writers whose opinions I have quoted agree in all essential respects as to the *manner* in which the "support" should be applied. The perinæum is to be pressed "forwards". There is a difference only as to the "force" to be used, and as to the period of the labour at which it is to be commenced.

Such pressure, such support, must have an effect—1, on the head of the child; 2, on the perinæum itself.

1. *Its Effects on the Head of the Child.* The pressure exercised primarily on the perinæum acts secondarily on the head of the child. The lines representing respectively the *effect* of the pressure as usually exercised, and the axis of the outlet of the pelvis, are practically nearly coincident; the effect on the head of the child is that of a pressure exercised directly upwards, and immediately in the axis of the pelvis. I say practically speaking; for, according to a well known law in physics, the combined effect of the passive resistance of the pubic arch anteriorly, and the active resistance of the hand of the operator posteriorly, resisting the contraction of the uterus above, is that which has been represented.

Clearly, then, it will be said, the pressure in question has one tendency; viz., to retard the advance of the foetal head. At first sight, this proposition carries truth on the face of it. Will it bear examination? It is remarkable that, by one obstetric authority, supporting is recommended in order to

retard the advance of the head; while we have it on the statement of another, that the pressure actually accelerates its progress. As previously stated, Dr. Rigby expressly remarks that he has found this effect from it, and that Madame La Chapelle had observed the same thing before him; and Dr. Tyler Smith particularly calls attention to the effect of pressure on the perinæum in exciting reflex action of the uterus, and in thus accelerating the progress of the labour. As a matter of experience, then, and as a deduction from theory, we find it stated on the one hand, that the pressure does accelerate the advance of the head; on the other, we are told that the object of the support is to retard the advance of the head. How are these conflicting statements and opinions to be reconciled?

Looking at the facts of the case, it seems hardly likely that any pressure exercised from without could have much *direct* effect in retarding the advance of the head, unless a tolerable amount of force were used. The force and power of the uterine contraction is, it must be remembered, in many cases something remarkable. In those particular cases in which support is most recommended—where, in the last stage of labour, the uterus is acting with very great vigour, and the perinæum is subjected to considerable pressure—the force required to counteract in any degree these uterine contractions, to render them inoperative, must be something infinitely greater than that capable of being exercised by the mere pressure of the hand from without. There are some operators who probably *do* apply their pressure in a manner calculated to have some such effect in retarding the head. Dr. Ramsbotham's plan of placing the elbow on the bedstead, and rendering it a fixed point against which the head is allowed to be protruded, must be one calculated to offer almost as much resistance in one direction as the pubic arch does in the other; and that this plan has an effect in retarding the progress of the head, would seem evident from the length of time ("many hours") during which Dr. Ramsbotham has occasionally been "compelled to remain by the side of the bed". It is not to be wondered at that the duty should be found "exceedingly fatiguing". On the other hand, if the pressure be slight in degree, it must be *mechanically* perfectly useless as regards its direct effect in retarding the advance of the head.

The *acceleration* in the advance of the head experienced by La Chapelle and Drs. Rigby and Tyler Smith, as a consequence of supporting the perinæum, now requires to be dealt with. The explanation given by Dr. Tyler Smith of this fact does not appear to me to include the whole truth. Is not the acceleration due rather to the effect of the resistance offered to the advance of the head of the child, than to the excitation of reflex action? Any resistance to the action of the uterus calls that action into more violent and powerful manifestation, as is well known; and I should be disposed to explain the beneficial "accelerating" action of pressure on the perinæum in this manner. I am at the same time quite prepared to admit that reflex contraction of the uterus may be set up by continual pressure on or by irritation and manipulation of the perinæum. All I contend for is, that this is only a part of the explanation.

The conclusions to be drawn from these considera-

tions are, that extreme degrees of pressure may retard the advance of the head; that a slighter degree of pressure either accelerates, by exciting uterine reflex action, or has no effect whatever on, the advance of the head; from which it necessarily follows that those who recommend moderate support of the perinæum, with the view of retarding the advance of the head, recommend that which is, mechanically speaking, useless.

It will be observed that the question of the advisability of retarding or accelerating the advance of the head, in order to preserve the perinæum, has not now been touched upon. This is a perfectly distinct question, and will receive attention in its proper place.

Another effect of supporting the perinæum, which has been alluded to by most writers on this subject, is that of *directing the head forwards*, and thus relieving the perinæum from pressure; and, as considerable importance appears to be attached to this element of the procedure, it is necessary to examine it somewhat particularly. Drs. Lee, Rigby, Churchill, and Tyler Smith, all agree in recommending that the head should be *directed forwards*. But how is this to be done? Anteriorly, we have the hard resisting arch of the pubes. Endeavouring to press the head forwards against this would seem purposeless and futile in the extreme. When the head is engaged in passing through the os externum, under ordinary circumstances, let any one attempt to pass the finger between the head and the arch of the pubes, and it will be found that the head and the arch of the pubes are so perfectly in apposition that the passage of the finger is generally impossible—there is certainly no space to spare *there*. It is well known that the pubic symphysis is loosened during labour; but it has been found by Schwegel (*Mon. für Geburtsh.*, Feb. 1859), who has carefully examined into the matter, that this loosening does not admit of an increase in the transverse diameter of the pelvis of more than one line; and it cannot for a moment be supposed that any pressure exercised in “directing the head forwards” can give any additional *space* for the passage of the head. In certain cases of pelvic deformity, the construction of the hard parts may be such that the head is really not so far “forwards” as it should be; but these are not “ordinary” cases. More, the attempt to direct the head forwards appears to me to be actually mischievous, by pressing it still more forcibly, if that were possible, against the pubic arch, and thus interfering with its passage beneath the arch. *Indirectly*, the effect of such pressure “forwards” may thus have an effect which those who recommend it have not contemplated from it; viz., the retardation of the progress of the head. It is well known that it is the part of the head which is most anterior—that, viz., which is in contact with the pubic arch—which emerges first; and the sooner this part of the head can be made to glide under the pubic arch, the better. Now, by pressing forcibly against the perinæum—that is, against the part of the child’s head which is directly opposite to this—the effect must be to delay the desired emergence of the part of the head in question. If it be so delayed, while the other and opposite side advances, it necessarily happens, as those who have paid attention to the relative position of the axis of the head in delivery will perceive, that a larger diameter of the head is presented to the perinæum than would other-

wise be the case. The part of the head in contact with the pubic arch advances much more slowly than that in contact with the fourchette, the head making a sweep as on a pivot, of which the fixed point is the pubic arch.

The pressure of the operator is applied, we suppose, as represented in the accompanying woodcut, in the direction of the line A B. How this pressure can assist the head in passing under the os pubis, or how it can help the head “in making its turn”, it is difficult to conceive; for, until a considerable portion of the head has passed under the arch of the pubes—until, in fact, the head has advanced to a position roughly indicated by the dotted line c—mechanical pressure in the direction of the line A B will be manifestly useless in helping the head forwards. If the pressure

Fig. 1.

be applied before that time, it must be injurious; if applied afterwards, it is also useless, as the difficulty in the latter case, so far as the perinæum is concerned, is at an end.

Probably the recommendation to “direct the head forwards” was based on the knowledge of the fact that the head has in certain cases actually perforated the perinæum, leaving the fourchette entire; indeed, as much is stated by more than one of the writers alluded to; and it was thought that, by following this recommendation, such an accident would be prevented. Experience has not proved this to be the case. Thus, in McClintock and Hardy’s *Practical Observations in Midwifery* (p. 7), we find a case recorded where this perforation occurred in spite of every care taken to direct the head forwards. In these rare cases of central perforation of the perinæum which have been recorded, there is not the slightest proof that the fault lay in the manner in which the head was directed: the cause must be sought elsewhere.

Even Dr. Leishman, who is opposed to the practice of supporting the perinæum in natural labour, and who has evidently devoted some little thought to the whole question, does not appear to have perceived the futility of this endeavour to direct the head for-

wards; for he says, "Pressure against the sacrum is well known both to afford relief to the woman and to direct the head forwards." (*Loc. cit.*, page 420.)

There is an effect which might be produced on the head of the child by supporting the perinæum, by this attempt to "direct the head forward", which has not been claimed for it by the adherents to the practice in question; viz., the possible diminution of the diameter of the foetal head presented to the perinæum by the pressure exercised from without. If the head be, as it ordinarily is, compressible, it is clear that pressure from behind would, if sufficiently strong, have a tendency to lessen that diameter of the head which lies between the hand of the operator and the resisting arch of the pubes, represented by the line A B in fig. 1. In fact, as in the case of the application of the forceps, it might be said, here you have a means of rendering the passage of the head more easy for the perinæum; and I can quite conceive that pressure might be so directed by the hand as to actually produce a tangible effect of this kind. The obvious criticism on such a mode of facilitating the delivery would be, that in the use of the forceps there is a better means of arriving at the same end. The compression by the forceps would be both more effectual and less liable to injure the soft structures which in the other case are necessarily interposed between the head of the child and the hand of the operator—the perinæum.

From this analysis of the effect of supporting the perinæum on the foetal head itself, it seems impossible to come to any other conclusion than that its supposed useful mechanical effect on the head is very questionable. Its imagined or imaginary effect in "directing the head forwards" I think I have sufficiently disposed of.

I shall in the next place examine the effects of the procedure on the perinæum itself.

[To be continued.]

EFFECTS OF GALLIC ACID ON THE EXPECTORATION. The remarkable influence which gallic acid exerts in arresting pulmonary hæmorrhage is so well recognised that, perhaps, few remedies are more generally prescribed in this affection, and when employed in suitable cases, and in full doses, I have often had reason to be satisfied with its effects. I have also found, as might be expected, that it exerts a considerable influence in controlling excessive expectoration, and I have frequently prescribed it with this intention, and with a fair amount of success, to diminish the exhausting pulmonary discharge in cases of phthisis; but I have not yet met any case of chronic bronchitis or humid asthma which appeared to me fairly suited to test its effects. In some instances, in which I prescribed it for checking expectoration, and also in attacks of hæmoptysis, I have noticed that the expectoration in the course of a few hours, under its influence, acquired a deep black or inky-blue, distinctly traceable to the use of the drug, and disappearing when its exhibition was omitted, to return again when it was resumed. This coloration is not an invariable occurrence when using the gallic acid, but it has happened so frequently as to attract my notice in at least five or six different cases; but I cannot say why it should occur in some of these cases and not in all. It is well worth further observation." (*Dr. W. Fraser.*)

Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

BIRMINGHAM GENERAL HOSPITAL.

SYPHILITIC INFLAMMATION OF THE LARYNX: ACUTE OEDEMA: TRACHEOTOMY: DEATH FROM HÆMORRHAGE, OCCASIONED BY AN ULCER IN THE TRACHEA.

Under the care of J. RUSSELL, M.D., and D. BOLTON, Esq.

THE history of the case is necessarily very meagre. The girl was a stranger to the town, and was not in a condition to afford much information, at first from the effect of her disease, and subsequently from the loss of speech, which resulted from the operation.

N. J., aged 25, was admitted on June 23rd, 1861. She was infected with syphilis by her father-in-law, by whom she had a child two months ago. She "had first a swelling, which turned to running." Four months ago, she was salivated. Her throat had been "bad" for four months; her breathing had been "tight" for a fortnight; but was well enough to allow her to travel from Liverpool on the day of her admission. A fortnight ago, some copper-coloured tubercles appeared on her thighs, and were still very perceptible.

She was brought to the hospital at 8 P.M., in a state of even greater suffering from dyspnoea than when seen by us two hours subsequently.

The following report was taken at 10 P.M. She is greatly emaciated, and has a very cachectic appearance. Some copper-coloured tubercles are thinly scattered over her thighs, and an eruption of lichen exists upon her abdomen. The left external labium is much swollen, and indurated below, with a superficial and rather sloughy ulceration over its lower portion. She breathes with great difficulty, and with laryngeal stridor; at each inspiration, all the extraordinary muscles of respiration are thrown into action, the alæ nasi are expanded, and the corners of the mouth drawn outwards. The front of the chest is much flattened, and the upper part is distinctly drawn in with inspiration; expansion of the chest being effected solely by the descent of the diaphragm. She makes twelve respirations in a minute; pulse 132, regular; surface of body warm. There is no blueness; her face is pale; her lips are perfectly pink. The pupils are natural. The voice is feeble and nasal, but quite free from hoarseness. She has pain in swallowing; and expectorates a little transparent mucus. She complains very urgently of headache, but is perfectly clear and alert.

On examining her throat, the uvula and a portion of the soft palate are found to be deficient; and an extensive ulceration, having a sloughy aspect, covers the pillars of the fauces and the posterior surface of the pharynx. Examination of the chest gives no result further than a shade of dulness in the posterior region of the right side. Her pulse rapidly rose to 140; breathing became tighter, and the headache more intense.

At 11 P.M., Mr. Bolton performed the operation of tracheotomy; a full sized tube was introduced, and the operation was followed by very great relief to all her symptoms, though much coughing attended the introduction of the tube.

Through the three following days, her state continued most satisfactory; she slept and ate well.

On the 27th (the fourth day), the tube was removed, in consequence of a very troublesome cough through the night; and, as the orifice was free, it was not replaced.